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THIS IS UNEVALUATED INFORMATION 25X1

the name "Kramatorsky Heavy Machine Tool Plant" was the correct name of "Stankostroi" after the plant had been put into operation.

the name of some Soviet leader or event, connected with the Soviet Regime was assigned to the plant, since that procedure was followed, in all cases UNCODED for enterprises of that kind.

the plant was called either "Stankostroi", or the Kramatorsky Heavy Machine Tool Plant.

the construction of the plant was begun approximately in 1937. UNCODED ore World War II, only preliminary construction of the plant was completed and put into operation. The designing division of the plant started its work, with an incomplete staff, approximately from the beginning of 1939. The plant started production in 1940.

It was a new plant.

the plant operated under the Ministry of Machine Tool Building of the USSR.

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25 YEAR RE-REVIEW

In the autumn of 1941 the plant was evacuated to the city of Novosibirsk. its last echelon left in the middle of October 1941. the plant was returned to its original site after the end of World War II. a part of it remained in Novosibirsk where a new plant has been built on the base of this part. 25X1

there was no used equipment at the plant at that time. 25X1

at least before evacuation, the plant was partly engaged in manufacturing of military production

the total number of people employed at the plant before evacuation were only 2000-2500. 25X1

Designing and manufacturing of large metal-cutting machine tools was a task of the plant. The following machine tools were included in the number of machine tools produced by the plant: roll lathes, lathes, and boring machines. 25X1

A plant trade mark should be on machine tools produced by the plant.

The following were some of the leading personalities at the plant:

(a) Nikolai Henrikhovich Tevs, highly-qualified engineer-designer who, before World War II, was chief of the lathes division of "PKO" (Projecting - Designing Department) of the machine tool plant.

(b) Platon Feoktistovich Balyunov, the same type as Mr Tevs, but a somewhat younger man Mr Balyunov was the head of a research group at "PKO" of the machine tool plant. 25X1

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The plant before evacuation had four manufacturing shops: machine shop, assembly shop, pattern shop, and foundry of non-ferrous and small cast iron castings. Moreover, the machine tool plant had a plant laboratory, and had to have a repair-machine shop and apprentice shop or apprentice workshop. The plant got forgings and large cast iron castings from "NKMZ" (Novo-Kramatorsky Machine Building Plant). At the same time, patterns which the machine tool plant submitted for this purpose to "NKMZ", were used for molding the molds. "NKMZ" was situated at a distance of somewhat more than one kilometer from the Kramatorsky Heavy Machine Tool Plant. The plants were linked by a railroad line. The machine tool plant was connected with the main railroad line by the plant railroad line of "NKMZ".

the definition of the category of metal-cutting machine tools in the technical literature of the USSR is approximately as follows: "Machine tools for the machining of metals through the cutting off of shavings from metals by any method are called metal-cutting machine tools."

A. The situation with the shortage of metal-cutting machine tools in the USSR has changed a great deal at the present time in comparison with the period before World War II. Since the end of World War II, the USSR has imported a large quantity of metal-cutting machine tools from dismantled enterprises in the Soviet Zone of Germany. The USSR also got a rather large quantity of machine tools from Germany in the form of industrial supplies as reparations. Large German machine tool plants were considerably destroyed by bombardments during World War II and for some time completely discontinued production. Some machine tool firms of East Germany had a considerable number of finished and partly finished machine tool parts. Besides that, a large quantity of machine tools damaged by bombardments, burnt machine tools in particular, were at machine tool plants and at many other machine enterprises. Some machine tool plants of East Germany, after their partial restoration, started to produce new machine tools (chiefly on the base of old finished and partly finished parts of machine tools) and to repair damaged machine tools in 1947-1948. The following firms are included in the above-mentioned firms: the "Niles" firm and series of small firms in the city of Chemnitz; the "Pfauter" firm in the city of Leipzig, and others. A part of a plant of the "Reinecker" firm in Chemnitz has been reconstructed. The majority of the most valuable machine tools manufactured in the Soviet Zone of Germany, has been sent to the USSR as reparations which, in total, amounts to a considerable number of machine tools. A number of machine building plants in the USSR began to receive dismantled equipment including dismantled machine tools, from Germany in large quantities shortly after the end of World War II. these dismantled German metal cutting machine tools, together with German machine tools delivered as reparations, have relieved the acute shortage of machine tools which existed in the USSR for several postwar years. In the spring of 1949 there was still a large quantity of machine tools, scheduled for the USSR, particularly at the railroad transfer base in Brest-Litovsk. These have been gradually transported to plants in the USSR. in 1949, there was no longer an acute need for most types of metal-cutting machine tools at working plants of "MTM" (Ministry of Heavy Machine-Building) of the USSR and it is obvious that the output of machine tools by Soviet plants has alleviated the shortage to a certain degree. A very important circumstance should be pointed out here, however, and that is that a considerable number of machine tools belonging to enterprises which were evacuated during World War II, especially large heavy machine tools which were dismantled for transportation, were damaged considerably by careless handling. Furthermore, the conditions under which they were used in new places during the war were, as a rule, worse than they had been before the evacuation. The

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following factors were the causes of this: worse shops; large numbers of poorly qualified machine tool operators; low shop temperature; shortage of lubricants and wiping materials; shortage of spare parts, necessary tools and devices; bad maintenance; and, in particular, repairs which were untimely and of bad quality. All this was aggravated by the extreme overfatigue and exhaustion of the majority of machine tool workers and administrative-technical personnel of the plants. In particular, at NKMZ in Electrostal, abnormally high wear, breakdowns of machine tools during operation, and the exploitation of machine tools which urgently needed overhauling became quite habitual during World War II. The majority of machine tools was very badly worn out by the end of the war. The following machine tools are included among the metal-cutting machine tools for which a great need has been felt in the USSR since World War II: gear-cutting machines for cutting teeth on gear wheels and on pinions with large modules by the rolling method; gear-cutting machines for cutting teeth on bevel gears with helical teeth for high speed gearings (Gleason, Klingelnberg); precision gear-milling machines for cutting teeth on gears for high-speed gear reducers; large slot-broaching machines; some types of boring machines; and many very large machine tools and special machine tools.

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Machine shop mechanics and technologists told that the Soviet-made metal-cutting machine tools were worse than American, English and German ones.

insufficient preciseness and quick wearability are the main defects of the Soviet-made machine tools, from the view point of shop engineers. Narrowness of nomenclature of types of manufactured machine tools is also a great defect of the machine tool industry of the USSR as such.

at machine tool plants of the USSR, the intraplant normalization embraces a large number of used machine parts and such members as threads; profiles of sections of machine parts; diameters; and also tolerances and fits used in machine tool building; materials of machine-parts and recommended and obligatory heat treatment, normal technological processes of manufacturing of machine parts and so on. For all this, plants of the Ministry of Machine Tool Building have intraministry standards. Plants worked out normal types of machine tools and have standardized units of machine tools.

the following bottlenecks are the most noticeable in the Soviet machine tool building: Unsatisfactory supply of materials; the absence of a sufficiently wide network of cooperating enterprises; lack of qualified workers and specialists; low quality of production; general weakness of research work, lack of means for experimental work; and insufficient and weak perspective planning.

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each Soviet plant has so-called "Shtatnoye raspisaniye" (staff schedule). A staff schedule is worked out by the ministry for each year for each plant of the ministry on the base of norms. Norms take into account: technical data of the plant, the nomenclature of articles manufactured by the plant, and the yearly plan of industrial production in tonnage and in terms of price. The staff schedule points out to the plant a total staff of workers and employees necessary to the plant, and gives its division as to the number of workers and employees separately, showing their categories and functional wages. Limits for wages approved by the ministry are assigned in conformity with the staff schedule. These limits also take into account the so-called "tariff zone" of the enterprise, determining the degree of tariff rates of workers and employees of the plant in accordance with its geographic location. Plants have no right to violate the staff schedule and pass over limits of wages.

Assuming, that the number of working hours per month is 200 on the average, that a yearly recreation leave is 100 hours, and that the total sick leave is also 100 hours per year, and not taking into account hours of overtime work and state holidays, we have approximately, 2200 hours working hours per year for the average productive worker.

The chief mechanic's department of NKMZ in Kramatorsk did most of the repairing of non-Soviet-made machine tools and manufactured a considerable number of spare parts for them. The chief mechanic of the plant had a large chief mechanic's department, a large and well-equipped machine-repair shop, and mechanic's divisions at shops at his disposal. Supervision and caring for equipment of the shop, maintenance work and planned-preventive repair of equipment were performed by mechanic's divisions of shops. Each manufacturing shop of the plant had this division. Overhauls of machine tools would be made by the repair machine shop. 25X1

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the number of skilled workers being trained corresponds approximately to the number required to fill the needs of the machine tool industry, but that not enough engineers and technicians are being trained. The level of qualification of trained workers, engineers and technicians, however, is undoubtedly lower than the level necessary for the industry.

Trade schools of the Ministry of Labor Reserves of the USSR (or, the Labor Reserve Board at "SNK", Soviet People's Commissars of the USSR) are the principal type of schools training skilled manpower for the machine-building machine tool building industry. Training at trade schools of the machine-building industry lasts for only two years. This term is too short, particularly in view of the general low level of culture and the low degree of preparedness for study of people trained at trade schools. Therefore, trade schools are not able and do not train highly-skilled and universal machine tool workers. Trade schools prepare machine tool workers of narrow specialty, of average and lower than average qualifications. On completion of a trade school, workers are usually placed in the fourth or fifth class of the eight-class working tariff table (wage scale), and their basic specialty is shown on the certificates which they receive on completion of the trade school, e g, a fourth-class turner on metal, or a fifth-class milling machine operator, or a fourth-class boring machine operator, and so on. Thus, after completion of a trade school, the worker has a qualification permitting him to operate only machine tools of certain kind in conformity with the training which he received. These machine tool workers do not repair and control machine tools. They do not have the necessary qualification for this, and it is not their duty. Trade schools train so-called fitters-mechanics or, more correctly, repair fitters, to supervise equipment and perform bench and assembly repair work. On completion of trade schools, repair fitters are also limited in specialty on the level of the qualifications of machine tool operators but in their own field, i e as repair fitters.

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The Kramatorsky Heavy Machine Tool Plant had started to operate shortly before the entry of the USSR into World War II. all machine tools made by this plant had cast iron main housings, and I did not hear that they were replaced by designs made of rolled steel shapes. The USSR did not have a single rolling mill of "Gray" - type (for rolling wide flange beams) before World War II, and thus could not have available homemade wide flange beams.

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On manufacturing herringbone gears and pinions, the presence or absence of a groove for relief of a cutting tool is determined by the type of machine tool on which the cutting of teeth is performed. At the machine building plants of the USSR the majority of gear-cutting machines for cutting teeth on cylinder gear wheels were made as gear-milling machines for cutting with gear cutters. Thus, only gears with a groove for relief of a gear cutter could be cut on them. In machine building plants of the USSR, however, there are also such gear cutting machines, as gear planers of the "Sykes" type, and gear milling machines for cutting teeth with milling cutters--end mills. Herringbone gears of the continuous tooth type, having no grooves, are cut on these machines.

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Speed in metal cutting machine tools of the USSR has been obtained mechanically in all cases At the same time, depending on the machine tool, the process of shifting has been realized either by hand or electrically.

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In all cases the controls have been electrical.

up to the middle of the 1940's at least, electronic controls were not used in the machine tool building of the USSR, and in those machine tools of foreign firms

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